12AU7A

Medium-Mu Twin Triode

9-PIN MINIATURE TYPE

For Applications Critical as to Microphonics

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	*Series*	*Parallel*	
Voltage (AC or DC)	12.6	6.3 ± 10%	volts
Current	0.15 ± 6%	0.3	amp

Direct Interelectrode Capacitances (Approx.):[a]

	Unit No.1	*Unit No.2*	
Grid to plate	1.5	1.5	μμf
Grid to cathode and heater. . .	1.6	1.6	μμf
Plate to cathode and heater . .	0.5	0.35	μμf

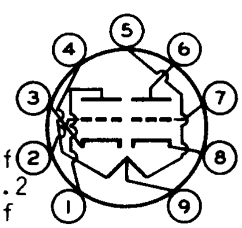
Characteristics, Class A_1 Amplifier (Each Unit):

Plate Voltage	100	250	volts
Grid Voltage.	0	-8.5	volts
Amplification Factor.	19.5	17	
Plate Resistance (Approx.). . . .	6250	7700	ohms
Transconductance.	3100	2200	μmhos
Plate Current	11.8	10.5	ma
Grid Voltage (Approx.) for plate μa = 10	-	-24	volts

Mechanical:

Operating Position. Any
Maximum Overall Length. . . . . 2-3/16"
Maximum Seated Length . . . . 1-15/16"
Length, Base Seat to Bulb Top (Excluding tip). . 1-9/16" ± 3/32"
Diameter. . . . . 0.750" to 0.875"
Dimensional Outline . . . . See *General Section*
Bulb. T6-1/2
Base. . . . . .Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW. 9A

Pin 1 - Plate of Unit No.2
Pin 2 - Grid of Unit No.2
Pin 3 - Cathode of Unit No.2
Pins 4 & 9 - Heater of Unit No.2
Pins 5 & 9 - Heater of Unit No.1



Pin 6 - Plate of Unit No.1
Pin 7 - Grid of Unit No.1
Pin 8 - Cathode of Unit No.1
Pin 9 - Heater Tap

← Indicates a change.

AMPLIFIER — Class A_1

Values are for Each Unit

→ **Maximum Ratings,** *Design-Maximum Values:*

PLATE VOLTAGE	330	max.	volts
CATHODE CURRENT	22	max.	ma
PLATE DISSIPATION:			
Either plate	2.75	max.	watts
Both plates (Both units operating)	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED AMPLIFIER CHART No. 10* at front of this Section

Maximum Circuit Values:

Grid-Circuit Resistance:			
For fixed-bias operation	1	max.	megohm

HORIZONTAL-DEFLECTION OSCILLATOR

Values are for Each Unit

→ **Maximum Ratings,** *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[c]

DC PLATE VOLTAGE	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE	660	max.	volts
CATHODE CURRENT:			
Peak	330	max.	ma
Average	22	max.	ma
PLATE DISSIPATION:			
Either plate	2.75	max.	watts
Both plates (Both units operating)	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance	2.2	max.	megohms

VERTICAL-DEFLECTION OSCILLATOR

Values are for Each Unit

→ **Maximum Ratings,** *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[c]

DC PLATE VOLTAGE	330	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE	440	max.	volts
CATHODE CURRENT:			
Peak	66	max.	ma
Average	22	max.	ma

→ Indicates a change.

PLATE DISSIPATION:			
Either plate	2.75	max.	watts
Both plates (Both units operating)	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance	2.2	max.	megohms

VERTICAL-DEFLECTION AMPLIFIER

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[c]

DC PLATE VOLTAGE	300	max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE[d]	1200	max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE	275	max.	volts
CATHODE CURRENT:			
Peak	66	max.	ma
Average	22	max.	ma
PLATE DISSIPATION:			
Either plate	2.75	max.	watts
Both plates (Both units operating)	5.5	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[b]	max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance:			
For cathode-bias operation	2.2	max.	megohms

[a] Without external shield.

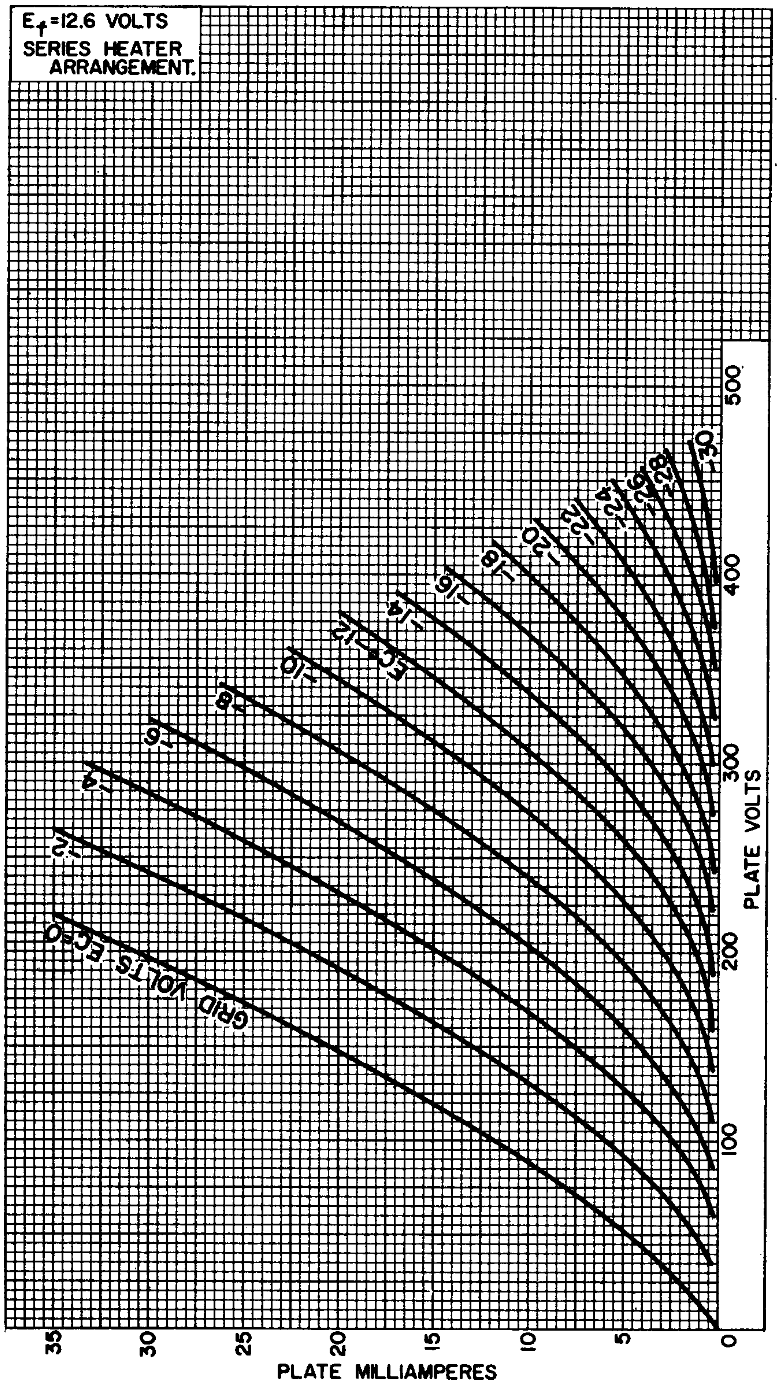
[b] The dc component must not exceed 100 volts.

[c] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

[d] This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

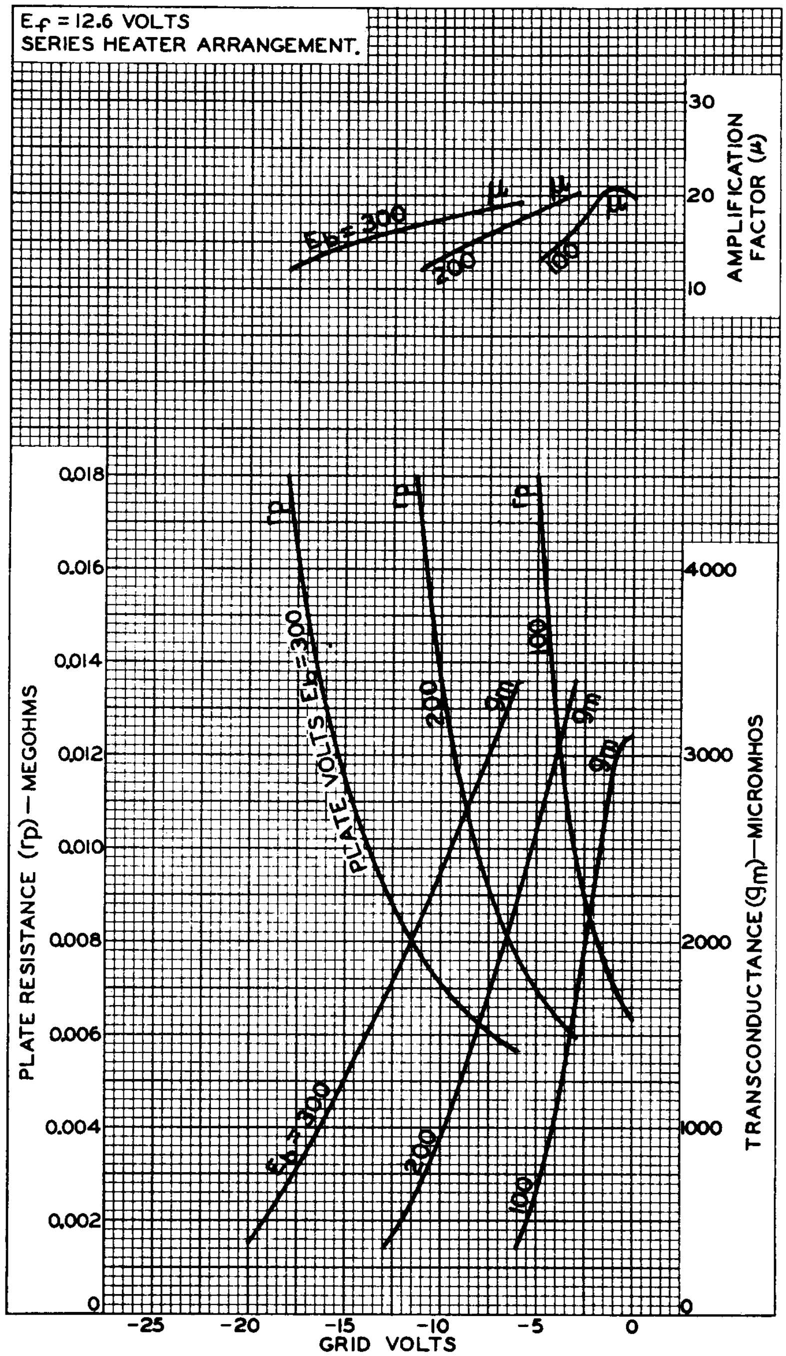
← Indicates a change.

AVERAGE PLATE CHARACTERISTICS
Each Unit



92CM-10548

AVERAGE CHARACTERISTICS
Each Unit



92CM-8564R2